Abstracting transformation, 137	Architectural mismatches, Synthesis for, 508
for dataflow diagram, 168-73	Artificial intelligence
for state diagrams, 139	audience from, 10
Abstraction	and dependencies, 88
and dependency diagram, 283	and generic processes, 23–24
and process analysis, 162	Attractor (business model archetype), 239
by total aggregation, 164	Attributes
Abstract ports, 300	dependencies as, 502–503
Accessibility, management of, 118–19	in PIF, 553–54
Accessibility constraint, 100	descriptions of, 560–67
Accessibility dependencies, 115-16, 293, 304. See	process, 449
also Flow dependencies	Attribute space
coordination mechanisms for, 21, 388, 408	of dataflow diagram, 167
managing of, 304–305	refinement of, 162–64
Acer Group, 33, 395, 397	Auctions, 81
Acorn project, 483	electronic, 446
Activities 6 4 246 52	information contract in, 429
classification structure for, 4, 246–52	sealed-bid, 425–26
coordination, 112	Automated support
core, 111, 387	for dependence, 26
dependencies between, 23	for inheritance, 26
identifying of (process description technique),	
346-51	Ballot genre system, 469–71, 472, 478, 479, 485,
naming conventions for, 251	491
vs. objects, 42	Barings Bank failure, 434–38
in Process Handbook, 222	Baseline analysis, 64
in software example, 89	Behavioral coordination theory, 69
specializations of, 391	Benchmarking, 32, 155, 381
in Synopsis, 501–502	cases for, 243
atomic and composite, 502	"Best practices," 3, 32
Activity-focused analysis, 352, 359–63	databases of, 34
Actors	for exceptions, 423–24
identifying of (process description technique),	generation of novel combinations of, 418
345–46	
	knowledge sharing about, 380
multiple, 367	of tomorrow, 13
in resource assignment, 93	Best Software, 391
Adhocracies, 48, 67, 70	Bidding genre system, 491
ADLs (Architecture Description Languages), 24,	Bidding schemes, 51, 54, 60–61, 71, 74
125, 511–12	Biological classification, 5–6
AES Corp., 391	Biological systems
Affordances, in grammatical models, 200-204,	and coordination, 82–83
205	and distributed or parallel processing systems, 73–
Agency theory, 80–81	75
Agent commitment violations, 429	Blackboard architecture, 70
Airline reservation systems, computerized, 68	BMW, 32, 391, 397
Alphabetic class reference, in PIF, 559-67	Boeing
Analogies ("cousins"), 33, 49, 401	design conflicts at, 447
distant, 395, 461	total simulations of, 21, 388, 408
Analysis and design techniques, development of,	Bottom-up approach, 31
188–89	Bottom-up goal identification, 58
And-prerequisites, 117, 308	Bramble, 542
Animals living in packs, 82	Branching factor, in specialization hierarchy, 250
Architecture Description Languages (ADLs), 24,	Broker (business model archetype), 239
125, 511–12	Bundle recombinator, 410, 414–16
,	

Bundles	Cessna, 391, 397
of related alternatives, 18, 385, 387, 405, 450	Champy, J., 261, 274–85
of specializations (Handbook), 225, 476, 517	Change, increased pace of, 525
Bureaucracy and classification system, 6	Change management, 103–104
Business Activity Model, MIT (BAM), 231–35	product workbench for, 515
deriving of, 235–38	Chase Manhattan, 397
and other models, 240	Chomskian generative grammar, 195, 204. See also
Business educators, as audience, 3, 12	Deep structure
Business model, 238	Cisco, 244
Business Model Archetypes, MIT, 238-40	Class hierarchy, PIF, 554
Business process(s), 336. See also Process(es)	Classification, of processes, 211–12
generic, 28	Classification system or structure, 4
increasing scale and complexity of, 423	for activities, 246–52
Business process redesign (BPR), 9, 13, 373	and biological classification, 5–6
challenge of, 379	and engineering handbooks, 6–7
computer applications for, 549–50 (see also	and Human Genome Project, 6
Process Interchange Format)	Periodic Table, 4–5
conflict repository for, 460	Client/server architecture, 321–22
design conflict management expertise for, 448	Code generator, in product workbench, 521
with exceptions analysis methodology, 424–34	Coding schemes, for organizational processes, 210
and Barings Bank failure, 434–38	Cognitive Science Laboratory, Princeton
challenge to, 423–24	University, 469
generation of ideas needed for, 403	Cognitive scientists, as audience, 12
with knowledge repository, 379–80, 400–401	Collaboration, 50, 50n
approach of (deep and surface structures), 381–	Collaborative authoring tools, 72
89	Collaborative work, debate on nature of, 525–26
case example for (hiring process), 389–400	Commitments
evaluation of, 401–402	and exceptions analysis, 424, 425–26, 428–29,
future efforts on, 402	432, 434
and previous approaches, 380-81	taxonomy of, 428–29, 430
with Process Recombinator, 403, 408–409	Common knowledge, 62–63
in comparison to related process design tools,	Common Lisp project, 469, 470, 473, 479, 480, 481,
419	482, 483, 491
deep structure identified, 409-10	Common output dependency, 96, 101-102, 106
different surface structures found, 410–17	Communication
future efforts on, 419–20	in coordination, 61, 62–63, 72
implementation of, 420–21	genres of, 466, 493 (see also Genre taxonomy)
new process designs compared, 417–18	and organizational success, 465-66
sources of power of, 418	Communicative actions, six (5W1H) aspects of,
process repository for, 457	468n
Business process reengineering	Compass. See Process Compass
coordination issues for, 289	Competence, and performance, 205–206
of Hammer and Champy, 261, 274–85	Competition, 50, 50n
Business templates, 4	Competitive bidding markets, 74
	Completeness, of specializing transformations, 164
CAD/CAM, for business processes, 516	Component frameworks, 126
Carrier resource, 298	Component integration, 109. See also Design
Case examples, in Process Handbook, 4, 221, 243–	handbook for software components integration
45	Composite dependency patterns, 295
CASE (computer-assisted system engineering)	Composition dependency, 103–104, 106
tools, 26, 125–26, 368, 515, 523	Comprehensive models of business processes
Center for Coordination Science (CCS), MIT, 7,	developed elsewhere, 240–43
124, 384, 404, 448, 466, 476	Computer(s), in coordination, 48
Centralization of decision-making, and information	Computer applications, for business process
technology, 68–69	redesign, 549

Computer-assisted system engineering (CASE)	basic processes in, 51–52, 59, 60
tools, 26, 125–26, 368, 515, 523	managing producer-consumer relationships, 54–
Computer-based group decision-making tools, 62	56, 60
Computerized airline reservation systems, 68	managing shared resources, 52–54, 60, 72, 79
Computer science, 23–25	managing simultaneity constraints, 56–57, 60
and coordination, 60, 79–80	managing task-subtask dependencies, 57–58, 60, 72
producer-consumer problem in, 100	
and resource allocation, 53–54	for business process reengineering, 289 communication in, 61, 62–63, 72
specialization and inheritance in, 42 Computer scientists, as audience, 3, 10, 11, 12	definition(s) of, 49–50, 78–79
Computer software. See at Software	as dependencies management, 19–22, 50–51, 59,
Computer-supported cooperative work, 69	64, 89, 111, 243, 387, 475, 499
Computer systems	and artificial intelligence, 88–89
considerations in design of, 63	future research on, 107–108
and coordination, 50	mechanisms of, 89–90
distributed and parallel processing in, 73–76	and multiple-task or -resource dependencies, 96–
flow dependencies in, 101	102
goals and activities in, 58	organizational research on, 86–88
vs. human "editors," 35	and problems, 89
Concurrency, of resource-in-use, 299, 314, 478	in Process Recombinator, 407
Concurrent engineering, 13, 56	and task-resource dependencies, 91–96
Conflict	and tasks, 90–91
design, 447-48 (see also Design conflict	exceptions related to, 424–25
management)	in field study, 33–34
naming, 569	group, 87
Conflicting goals, coordination of, 64–65	group decision-making in, 62, 72
Conflict management, 447. See also Design conflict	impersonal, 87
management	of information using genres, 474–79, 485–86
Conflict management meta-process, 455–57, 458	integration as, 104
Conflict repository, MIT, 457–61, 463. See also	interdisciplinary study of, 47 49, 78
Design conflict management repository	in organizational design, 22
Conflict taxonomy, 448, 452–55	personal, 87
Connector, software, 503	as perspective, 63
Constraints	and designing of cooperative work tools, 69–73,
accessibility, 100	76
in grammatical models, 200–204, 205	and designing of distributed and parallel
identifying and formulating, 208	processing computer systems, 73–76
and language faculty, 204	and effects of information technology on
monitoring of (process support system), 531–33	organizations and markets, 65–69, 76
planning options based on (process support	and identifying coordination components, 64–65
system), 533–36	and parametric vs. baseline analysis, 63–64
usability, 99, 105, 365 Consultants, as audience, 3, 12	and Process Handbook, 9, 404
Consumability, of resource-in-use, 299, 314	research agenda on, 76–78 and resources, 91–102 (see also Resources)
Consumer sharing dependencies, 314	restaurants as forums for, 185 (see also at
Contract Nets protocol, 73	Restaurant)
Contractor (business model archetype), 239	results on from selected fields, 51, 79–83
Control, in computer science, 297	in software system design, 499–500, 504, 514 (see
Controlled hierarchy, 309, 310, 322	also Design handbook for software components
"Conversation for action," 69	integration)
Cooperation, 50, 50n	and Architecture Description Languages, 511–
prerequisite relationship in, 294	12
Cooperation relationships, 324	and coordination theory, 511
Cooperative work tools, 69–73, 76	future research on, 513–14
Coordination, 4, 34–35, 41–42, 47	and open software architecture, 512-13

Coordination (cont.)	Core activities, 111, 387
and Synthesis system, 500-10	Coupling, between components (Perrow), 286
in task assignment process, 59-61, 72	"Cousins" (analogies), 33, 401
Coordination activities, 112	distant, 395, 461
Coordination design space, 296	Coverage, of design conflict management
Coordination mechanics, 71	repository, 462
Coordination mechanisms, 81–82	Cover term, 207
alternative (hiring case example), 391–92	Creativity techniques, 381
decomposition of, 92	Creator (business model archetype), 239
and dependencies, 21, 85–86, 87–88, 89–90, 104–	Cross-fertilization, 34
107, 182, 337–38, 388, 407–408, 450, 475, 517	Cross-level (multi-level) analysis, 177–78
dimensions of, 87	Cultural structures, 202
generic, 243	Cumulation of results, 36
in knowledge base, 426	Cumulative events, 310, 312
taxonomy of, 426–28	Cumulative flows, 321
for information, 478	Cumulative prerequisites, 307, 311
and process description technique, 336	Culturative prerequisites, 507, 511
	Daily build, Microsoft, 21, 388, 408
for task assignment, 60–61	
temporal aspects of, 478	DARPA/ROME Laboratory Planning Initiative,
Coordination process design rules, 127	552
Coordination processes	Database, Handbook, 25, 27–30, 420
design space of, 291, 292	of case examples, 245
models of, 243	and deep structure, 389
representing and classifying of, 76–77	process descriptions in, 448
Coordination process or protocol (software	Databases
system), 127, 499, 503	discretionary, 72
Coordination structures, 202	discussion, 526
Coordination theory, 8–9, 47, 111, 292, 337–38,	Data collection
511	in process description technique, 344-45
in context of various kinds of systems, 78	on supply chain management, 421
an dependencies typology, 41	Data flow dependency, 118, 120, 121
in deriving MIT Business Activity Model, 235–38	Dataflow diagrams (DFDs), 143–45
and goal resolution, 365	formal definition of, 166–67
and information technology, 47–48	maximal execution set of, 168
and process description technique, 339–42	refining/abstracting transformations for, 168–73
in comparison to other process analysis	specialization of, 145–47
techniques, 366–67	specializing and refining transformations for, 147–
and dependency analysis, 364–65	49
and design of analysis tools, 368–69	Data resources, 298
evaluation of, 368	Davenport, T. H., 261–74
implications of for practitioners, 369–70	Deadlock, as resource problem, 95–96
Step 1 of (Setting process boundaries), 342–44	Decision-making, group, 62
Step 2 of (Collecting data), 344–45	Decision tree, specialization tree as, 407
Step 3 of (Identifying actors and resources), 345–	Decomposition, 449
46	of coordination mechanism, 92
Step 4 of (Identifying activities), 346–51	exhaustive process, 147
Step 5 of (Identifying dependencies), 351–63	of generic conflict management meta-process, 456
Step 6 of (Verifying model), 363	goal (top-down), 57–58, 72
and trade-off matrices, 365-66	of mechanisms for resource allocation, 95
and Process Handbook, 475-76, 511	of process, 147, 148
and software components, 114	into activities, 348, 349, 350
in understanding and representing work, 335	into subactivities, 384-85, 404, 405, 449
Coordinator (computer-based cooperative work	of 'Sell product' activity, 476, 477
tool), 70, 71, 72	and Synopsis, 501, 503
CORBA, 126, 512	Decomposition browser, 520
, -,	

Decomposition editor, in Synopsis, 507	and communication genres, 476
Decomposition hierarchy, 476	coordinating of, 284–85, 478
for electronic memo genre, 483	coordination mechanisms for, 21, 388, 407, 408
Deep structure, 204, 373, 374, 380, 381–82, 382n,	and resource flow, 267
383, 409	in restaurant example, 186–88
analyzing of, 389–90	taxonomy of, 21, 21–22, 99–101, 105–106, 114–
in Business Activity Model, 235	18, 293–94, 300–10, 388
in case example (business process redesign), 393,	and hierarchies of specification-level abstractions,
395	24
different levels of, 385, 386	identifying of (process description technique),
in Process Recombinator, 408	351–63
and process specialization, 384	information contract, 429
of selling, 224	interconnection, 109, 112
Deletion, specialization by, 158-50	meets, 327
Dependencies, 21, 86–88, 449–50, 502–503, 517	in multiple modes of use, 102
accessibility, 115–16, 293, 304	mutual exclusion, 114, 323, 326
coordination mechanisms for, 21, 388, 408	and open architecture, 512
managing of, 304–305	overlap, 329
between activities, 23	pooled, 85, 87
alternative coordination processes for, 51–52	prerequisite, 114, 117–18, 294, 306–308, 323, 326
automated support for, 26	and Barings Bank, 435
characterizing of, 77 as commitments, 425	in case study (MAG), 358
	coordinating mechanisms for, 21, 388, 408
common output, 96, 101–102, 106	managing of, 308–13
composition, 103–104, 106	prevention, 327
consumer sharing, 314	in process assembly, 181
and coordination, 19–22, 50–51, 59, 64, 89, 111,	and process description technique, 336
243, 387, 475, 499	reciprocal, 85, 87
and artificial intelligence, 88–89	as represented in Process Handbook, 253, 255
future research on, 107–108	resource sharing, 294, 314
mechanisms of, 21, 85–86, 87–88, 89–90, 104–	sequential, 85, 87
107, 182, 337–38, 388, 407–408, 450, 475, 517	shared characteristics of, 58–59
and multiple-task or -resource dependencies, 96-	shared resource, 181
102	sharing, 20, 42, 96, 97–99, 105, 114, 236–37, 267,
organizational research on, 86–88	314–15, 387, 388, 475, 505
and problems, 41	and commitments, 428
in Process Recombinator, 407	and communication genres, 478
and task-resource dependencies, 91–96	coordination mechanisms for, 21, 388, 407, 408
and tasks, 90–91	and genre coordination, 485
data flow, 118, 120, 121	managing of, 315–19
between divisions of same company, 58	simultaneity, 330
during, 329	simultaneous end, 332
exact flow, 435	among software components, 42, 497, 499
finishes, 331	specialization and decomposition of, 21–22
fit, 20, 42, 236, 267, 387, 388, 475	starts, 330
and commitments, 428	task, 102–103
and communication genres, 476	task-resource, 91–96, 105
coordination mechanisms for, 21, 388, 407, 408	between tasks or between resources, 102–104
and genre coordination, 485	task-subtask, 57–58, 60, 72
in Hammer and Champy's business process	taxonomy of, 86, 104, 106, 113
reengineering, 279, 283–84	and design handbook of software
flow (producer/consumer), 20, 42, 96, 99, 114,	interconnection, 122
	*
181, 293, 319–23, 387, 475, 505 in case study (MAG), 358	of flow dependencies, 114–18
· · · · · · · · · · · · · · · · · · ·	timing, 114, 294, 323–32, 505
and commitments, 428	transfer, 182, 358

D	:1:1:4 dd:: 204 205
Dependencies (cont.)	accessibility dependencies in, 304–305
usability, 115, 293, 302–303	and flow dependencies, 319–23
in case study (MAG), 358	prerequisite dependencies in, 306–13
coordination aspects related to, 478	sharing dependencies in, 314–19
coordination mechanisms for, 21, 388, 408	timing dependencies in, 323–32
managing of, 56, 118, 182, 303–304	usability dependencies in, 302–304
user sharing, 294	motivation for, 109–11, 126
Dependencies space, 113–14, 292–295	and Process Handbook project, 124–25
Dependency analyses, as basis for process	and Synthesis system, 119-24, 504-505
improvement, 364–65	and taxonomy of resources, 297-300
Dependency design space, 296	Design-implementation flow, 285
Dependency diagram	Design methods
in Davenport's process innovation, 267, 269–73	Davenport's process innovation, 261–74
for genre taxonomy, 482, 483, 484, 485	Hammer and Champy's business process
in Hammer and Champy's business process	reengineering, 261, 274–85
reengineering, 279–83	and Perrow on high-risk systems, 261, 285–88
in Perrow's discussion of high-risk systems, 287–	Design process for generating executable
88	
	applications, 122–24
Dependency editor, in product workbench, 522	Design space, 291, 295–97
Dependency-focused analysis, 352–54, 356–59	coordination, 77, 296
Dependency patterns, composite, 127	dependency, 296
Dependency recombinator, 410, 412–14	Design techniques, development of, 188–89
Dependency types, vocabulary of, 291–92	DFDs. See Dataflow diagrams
"Descendants" of generalizations, 33	Digital Equipment Corporation, Spark project at,
Design. See also Software system design	551
concurrent vs. serial, 452	Directions, "imperative" (process support system),
organizational, 155	536
of organizational processes (grammatical methods	Disconfirmation, criterion of, 209–10
for), 213–14	Discretionary databases, 72
participatory, 56	Discussion databases, 526
of process analysis tools, 368–69	Distant analogies, 395, 461
Design alternatives, 295	Distributed processing in computer systems, 73–76
Design assistant, 125–26, 374, 506–507	Distribution of processes, 212–13
Design conflict management, 447–48. See also	Distributor (business model archetype), 239
Conflict management	Divisibility, of resource-in-use, 299, 314, 478
Design conflict management repository, 451	Division of resources, 315, 317, 319
and conflict management meta-process, 455–57,	Doubletree, 32, 391
458	Dow Corning, 443
and conflict taxonomy, 452–55	process expository of, 445
evaluation of, 461–63	Downward propagation, 160, 161
future efforts for, 463	Duality of structure, 467
key uses for, 457	During dependencies, 329
business process redesign, 460	Dynamic organizational activity, support systems
pedagogy, 448, 458–59	for, 526. See also Process support systems in
research, 448, 457, 460–61	dynamic contexts
Design handbook for software components	aj mino contento
integration (interconnection), 291, 292	Eager flows, 321
and Architecture Description Languages, 125	e-business, generating order processing alternatives
and CASE tools and software design assistants,	for (process specialization example), 149–55
125–26	
	eBusiness case examples, in Process Handbook,
and dependencies space 202 05	244, 246  aBusiness Process Handbook (aPH) 222
and dependencies space, 292–95	eBusiness Process Handbook (ePH), 222
framework for, 111–19	Economic order quantity, 56
future directions for, 127	Economics
and generic model of resource flows, 300–32	classical microeconomics, 80

and coordination, 60, 80-81	Flowcharts, 367
and resource allocation, 53	Flow (producer/consumer) dependencies, 20, 42,
Editorial challenge, 35–36	96, 99, 114, 181, 293, 319–23, 387, 475, 505
Electronic auction house, 446	in case study (MAG), 358
Electronic communication media, 466. See also	and commitments, 428
Internet; Web site; World Wide Web	and communication genres, 476
Electronic yellow pages, 71	coordinating of, 284–85, 478
"Empty world hypothesis," 104	mechanisms for, 21, 388, 407, 408
Engineering handbooks, 6–7	and resource flow, 267
Enterprise Modeling project, University of	in restaurant example, 186–88
Toronto, 551–52	taxonomy of, 21, 21–22, 99–101, 105–106, 114–
Enterprise resource planning systems (ERP), 525	18, 293–94, 300–10, 388 (see also Accessibility
Entity specialization, 122, 503–504	dependencies; Prerequisite dependencies;
Entry in Process Handbook (sample), 223–29	Usability dependencies)
Epistemologies, positivist vs. antipositivist, 183	Flow graph, resource, in Davenport's process
Eppinger, Steven, 242	innovation, 264–67, 268
European Foundation for Quality Management	Flow management mechanisms, 100–101
(EFQM) Model, 241–42	Flow management work list, 540
Event condition-action rules (ECA), 542	Frameworks, in Process Handbook, 221
Exact flow dependencies, 435	FreeFlow, 542
Exception(s), 452n	
in process support system, 533	General Electric, 33, 397, 446
as represented in Process Handbook, 253, 256	Generalizations ("ancestors"), 33
taxonomy of, 253, 256, 429, 431	in sample Handbook entry, 225, 227–28
Exception handlers, 424, 429, 432	Generalizing transformation, 137
taxonomy of, 432, 433	uses of, 161
Exceptions analysis methodology, 424–34	Generating of business ideas. See Business process
and Barings Bank failure, 434–38	redesign
challenge to, 423–24	Generation of new design, 381
Execution set, maximal, 168	Generative grammar, Chomskian, 195, 204. See
Execution set semantics	also Deep structure
maximal, 134, 135, 156n, 162	Generativity, 131, 131n, 335
minimal, 134, 156n, 157–58	of grammar, 194
Exhaustive process decomposition, 147	Generic business processes, 28–29
as refinement, 168–73	Generic model of resource flows, 300–302
Expert systems, 419	accessibility dependencies in, 304–305
Expressiveness, in design conflict management	and flow dependencies, 319–23
repository, 461–62	prerequisite dependencies in, 306–13
Extension semantics, 134–35	sharing dependencies in, 314–19
	timing dependencies in, 323–32
"Families" of related processes, 42. See also	usability dependencies in, 302–304
"Cousins;" "Sibling"	Generic models of business activities (Process
Finishes dependency, 331	Handbook), 221, 229–30
Firm size, and information technology, 67–68	Generic verbs, 247–50
Fit dependencies, 20, 42, 236, 267, 387, 388, 475	Genre repertoire, 481
and commitments, 428	Genres of organizational communication, 467–
and communication genres, 476	68
coordination mechanisms for, 21, 388, 407, 408	coordination of information through, 474–79
and genre coordination, 485	evolution of over time, 473–74
in Hammer and Champy's business process	implementation of information about, 483
reengineering, 279	Genre taxonomy, 466, 468–73, 492–93
coordinating of, 283–84	and coordination, 485–86
Flow(s)	prototype of, 479–86, 493
coordination mechanisms for, 388	and Sloan School on-line admissions, 486–92
in dataflow diagram, 145	gIBIS system, 70, 72

Goal decomposition, top-down, 57-58, 72	Included term, 207
Goal identification, bottom-up, 58	Information and communication technologies
Goals	(ICT), 177
conflicting, 64–65	as impacting process, 180–81, 183–84
in deep structure, 382	multi-level impact of, 178, 183–84, 186, 190
identifying of, 342–44	process perspective on, 188
personal (differences in), 93	Information contract dependency, 429
potentially divergent, 365	Information flows
and processes, 179, 180	and coordination mechanisms, 478
in software example, 89	economic analysis of, 81
GradAdvantage, 487–88, 490 Grammar, 193–95	managing of, 80
and organizational processes, 192–93, 195–206,	Information Lens system, 70, 71, 72 Information system for restaurant, as process
214	specialization example, 140–43
methodological considerations in, 206–11	Information systems research, and organizational
surface structures from, 382	issues, 177–78
Group decision-making, 62, 72	Information technologists, as audience, 3, 12
Groupware, 48, 69, 525, 541	Information technology (IT)
1 , , , ,	and coordination theory, 47–48, 65–69, 76
Hammer, M., 261, 274–85	in example comparing restaurants, 185–88
Handbook. See Process Handbook	and mass customization, 516
Handbook of organizational processes, 369	Infrastructure commitments violations, 429
Hardware resources, 298	Inheritance, 9
"Heidi's problem" (support-systems scenario), 528,	automated support for, 26
531, 532, 534–35, 536, 540	and specialization, 34
Hierarchical structure, 9, 404. See also	Innovation, need for, 379
Specialization	Innovative eBusiness examples, in Process
Hierarchy. See also Specialization hierarchy	Handbook, 244 Insects, social, 82–83
of actions (processes), 17 of classes (PIF), 554	Installation of employees, 414n
controlled, 309, 310	Institutional structures, 201
decomposition, 476	Integration, 104
vs. market, 94	Integrity checker, in product workbench, 519–20,
object specialization (and upward propagation),	521
160–61	"Intellectual mercenaries," 68
template-oriented component, 516	Interconnection dependencies, 109, 112
High-risk systems, Perrow on, 261, 285–88	Interconnection protocols, 118–19
Hiring process	Interconnections among software components, as
case examples of	design problem, 127, 291, 497-98, 514. See also
for business process redesign, 389–400	Generic model of resource flows
in Process Handbook, 244	Interdependency, 23, 86. See also Dependencies
as Process Handbook field test, 31–34	and coordination, 81–82, 85
deep structure for, 409–10	"Interesting Organizations Database," 421
via Internet, 395, 397, 446	International Benchmarking Clearinghouse
and process repository, 446	(IBC), Process Classification Framework of, 240–41
Home Depot, 397 Human actors	International Workflow Management Coalition,
assumptions about, 526–27	571
deterministic and voluntaristic, 183	Internet, 465. See also Web site; World Wide Web
decision-making by, 525–26	hiring via, 395, 397, 446
Human Genome Project (HGP), 6	and location of genre system, 472–73
	Sloan School admissions on, 486–92
ICT. See Information and communication	Intuitive appeal, of MIT Business Activity Model,
technologies	234
Implicit invocation architectures, 322	"Inventing the Organizations of the 21st Century"
Implicit resource relationships, 294	(MIT research initiative), 421

of producer-consumer relationships, 54-56, 60, 62 Just-in-time inventory control or transfer, 13, 21, 55, 100, 388, 408, 425, 475–76 of shared resources, 52-54, 60 of simultaneity constraints, 56-57, 60 Kearney, AT, consulting firm, 31, 32, 389 of task-subtask dependencies, 57-58, 60, 72 Knowledge, common, 62-63 Market(s), and information technology, 65–69, 76 Knowledge base. See also Database, Handbook; Marketing Management (Kotler), 242 Market research, for usability, 56 Databases of coordination processes, 426 Market transactions, evaluation of, 65 for Process Handbook project, 3, 435 Markov models, and syntactic models, 208 and Process Recombinator, 419-20 Marriott Hotels, 32, 244, 391, 446 Knowledge Interchange Format, 571 Mass-customization, 516 Knowledge management, 374 production workbench for, 523, 524 Knowledge (process) repository Maximal execution set, for dataflow diagram, 168 of Phios, 443, 336 Maximal execution set semantics, 134, 135, 156n, process redesign with, 379-80, 400-401 162 approach of (deep and surface structures), 381-Mechanism design theory, 81 Meets dependencies, 327 case example for (hiring process), 389–400 Memoryless events, 310, 312 evaluation of, 401-402 "Mercenaries, intellectual," 68 future efforts on, 402 MES conditions, 168 and previous approaches, 380–81 Meta-process, conflict management, 455–57, 458 for Process Recombinator, 403 (see also Process Meta-process information, 448 Recombinator) Methodological considerations, of grammatical Knowledge Sharing Initiatives, 571 models, 206-11 Kotler, Philip, 242 Methodologies, 31 Michaelangelo, on creation as choice, 143 Microsoft Access, 25, 420 Landlord (business model archetype), 239 Language faculty, and organizations, 204–205 Microsoft's daily build, 21, 388, 408 Lazy flows, 321 Microsoft Windows, 25 Lean Enterprise Manufacturing Model, 241 MIL (Module Interconnection Languages), 125 Miller, George, 249 Learning organization, 13 Leeson, Nicholas, 434, 436, 438 Minimal execution set semantics, 134, 156n, 157-Lexicon, 197 identification of, 207 MIT Business Activity Model (BAM), 231–35 Library science, audience from, 12 deriving of, 235–38 Linguistics, in analysis of group action, 69–70 and other models, 240 Links between activities, 26 MIT Business Model Archetypes, 238–40 MIT Center for Coordination Science (CCS), 7, Linnaeus, Carolus, 5 124, 384, 404, 448, 466, 476 Location coordination aspects related to, 479 MIT conflict repository, 463. See also Design of genre/genre system, 482 conflict management repository MITD eBusiness Awards, finalists for, 384 Lockstep flows, 321 Lockstep prerequisites, 307, 311 MIT Process Handbook. See Process Handbook Logging, and prerequisite violation (Barings Bank), MIT Process Handbook project. See Process 436-38 Handbook Project Logic of analysis, 209–10 MIT Scenario Working Group, 516 London Business School, 244 MIT Sloan School of Management. See Sloan Lotus Notes group conferencing system, 73 School of Management, MIT Modeling design methods, 261. See also Design "MAG Services" (fictional marketing services methods Modeling languages, 157 company), 339, 341-62, 364-65, 366 Models Malone, Thomas W., 443, 446 of business processes developed elsewhere, 240-Management science, audience from, 12 Managers, as audience, 3, 12 Managing of information flows, in computer of coordination processes, 243 verifying of (process description technique), 363 science, 80

Models, generic. See Generic model of resource Organizational practice, improving of, 13–14 flows; Generic models of business activities Organizational processes. See also Process(es) Module Interconnection Languages (MIL), 125 grammar as model for, 192-93, 195-206, 214 "Molecules" (reusable systems dynamics methodological considerations in, 206-11 representation of, 14-15 components), 256 Monsanto, 391 specificity frontier of, 527-28 Motorola, 33, 395, 397 theory of, 189 Moves, in organizational action, 197 Organizational research, on dependencies and Multi-level research, problem of, 177–78 coordination, 86-88 Multi-Media Handbook for Engineering Design, 6-Organizational researchers, as audience, 3, 10, 11, Multiple actors, 367 Organizational science, and multiple theories, 190 Multiple task or resource dependencies, 96–102 Organizational structure Multiple theories, 190 of future, 515 Mutual adjustment, for coordination, 82 and Product Workbench, 524 Mutual exclusion dependencies, 114, 323, 326 Organization theory and coordination, 60, 81-82 Naming conflict, 569 and knowledge repositories, 547 Naming conventions, for activities, 251 and resource allocation, 53 National Institute of Standards and Technology Organization theory and design, 22–23 (NIST), 575 Organizing, definition of, 192 Navigation links, 26, 246 Organizing knowledge, vs. simulating performance, New Pig. 397 New Product Design (Eppinger), 242 Or-prerequisites, 117, 308 Nierstrasz, O., 157 Oval system, 72 Overlap dependencies, 329 Nonshareable resources, 98–99 Normal Accidents (Perrow), 285–88 Notes group conferencing system, 73 Parallelism, in dataflow diagram, 167 Parallel processing in computer systems, 73–76 Object-oriented programming, 17 Parametric analysis, 63 Objects, vs. activities, 42 Partially Shared Views (PSV) translation scheme, 550, 551, 567 Object specialization, 157–58 Participatory design, for usability, 56 and deletion, 158-59 Object specialization hierarchies, and upward PCF (Process Classification Framework), 240–41 propagation, 160–61 Peer synchronization, 117–18, 309, 310, 322 Performance, vs. competence, 205-206 OLE, 126, 512, 513 Onsale, 446 Performance programs, and syntactic constituents, Ontologies, realist vs. nominalist, 182-83 198-99 Periodic Table of the Elements, 4–5 OpenDoc, 126 Openness, and genres in electronic medium, 479 Perishable flows, 320 Open Scripting Architecture, 512 Perishable prerequisites, 307 Open software architecture, 512-13 Perrow, C., 261, 285-88 Operations research, and coordination, 60, 80–81 Persistent event protocols, 310 Orderings, alternative, 392 Persistent flows, 320 Order processing Persistent memoryless events, 312 dataflow diagram of, 144 Persistent prerequisites, 306, 311 for e-business (process specialization example), PERT chart, 367 149 - 55Petri nets, 70-71, 76, 161, 367, 419, 553 Organization(s), and information technology, 65-Phasic analysis, 208-209 Philosophy, in analysis of group action, 69–70 Organizational communication, genres of, 467–68. Phios Corporation, 8, 222-23, 244, 443 See also Genre taxonomy Phrase structure rules, 200 Organizational design PIF. See Process Interchange Format coordination in, 22 PIF. See Process Interchange Format and process specialization, 155 Planning, and composition dependency, 103

Plural Soar, 23	Process description technique (coordination-theory
Polymer system, 71, 72	based), 339–42
Pooled dependencies, 85, 87	in comparison to other process analysis
Prerequisite constraints, 54–55, 99–100, 105–106	techniques, 366–67
Prerequisite dependencies, 114, 117–18, 294, 306–	and dependency analysis, 364–65
308, 323, 326. See also Flow dependencies	and design of analysis tools, 368-69
and Barings Bank, 435	evaluation of, 368
in case study (MAG), 358	implications of for practitioners, 369–70
coordination mechanisms for, 21, 388, 408	Step 1 of (Setting process boundaries), 342–44
managing of, 308–13	Step 2 of (Collecting data), 344–45
Prevention dependencies, 327	Step 3 of (Identifying actors and resources), 345–
Princeton University, Cognitive Science	46
Laboratory at, 469	Step 4 of (Identifying activities), 346–51
Process(es), 43, 336–37	Step 5 of (Identifying dependencies), 351–63
active and inactive, 167	Step 6 of (Verifying model), 363
as activities and interdependencies, 180–83	and trade-off matrices, 365–66
alternative views of, 26, 27	Process Handbook, 4, 256, 384, 404, 448–49, 476,
classification of, 211–12	516–17
commitments in, 424, 432 (see also Exception	as case-based reasoner, 24
analysis methodology)	challenge of, 547
components of, 179–80	as classification system, 4
in dataflow diagram, 145	for activities, 246–52
as distinct entities, 35	and biological classification, 5–6
generic, 28–29	and engineering handbooks, 6–7
and ICT research, 177	and Human Genome Project, 6
as organizational	and Periodic Table, 4–5
grammar as model for, 192-93, 195-211, 214	common exchange format for, 575
representation of, 14–15	and conflict repository, 448, 451, 457–61, 463
specificity frontier of, 527–28	contents of, 9, 221–23, 421
theory of, 189	case examples, 243–45
related (sample Handbook entry), 224	comprehensive models of business processes
and research paradigms, 182-83	developed elsewhere, 240–43
research and practice recommendations for, 188-	MIT Business Activity Model, 231–38, 240
90	MIT Business Model Archetypes, 238–40
and sentences, 199–200	coordination mechanisms in, 404 (see also
service (restaurant example), 185–88	Coordination; Coordination mechanisms)
specialization of, 15–19 (see also Process	and coordination perspective on software design,
specialization)	511
taxonomy of, 450–51	coordination theory in, 475–76 (see also
as unit of analysis, 189	Coordination theory)
Process analysis tools	dependencies in, 253, 255, 404, 476 (see also at
design of, 368–69	Dependencies)
improvement needed in, 36	exceptions in, 253, 256, 423, 432 (see also
Process attributes, 449	Exceptions analysis methodology)
Process boundaries, setting of (process description	field-testing of (case study), 31–32
technique), 342	future research on, 547
Process-centered research framework, 183–84	and genre taxonomy, 466, 479 (see also Genre
Process class, refinement of, 163	taxonomy)
Process Classification Framework (PCF), 240–41	models of coordination processes in, 243
Process Compass, 15, 17, 229, 251	multiple versions of, 221–22
for Dow Corning, 445	potential of, 258
Process description	primary elements of, 217
exchange of, 550 (see also Process Interchange	process description in, 538
Format)	and Process Recombinator, 403, 420-21 (see also
verbal account as, 366	Process Recombinator)

Process Handbook (cont.)	new process designs compared, 417-18
process specialization in, 404 (see also Process	sources of power of, 418
specialization)	Process redesign. See Business process redesign
as resource rather than prescription, 35	Process repository. See Knowledge repository
resources in, 253	Process representations, 161
sample entry in, 223–29	Process selection flow, in Hammer and Champy's
specialization in, 476 (see also Specialization)	business process reengineering, 279. See also
and specialization hierarchy, 156	Flow dependencies
and Synopsis, 511	Process specialization, 15–19, 131–33, 161–62,
syntax of, 480	384–87, 404–407, 517
systems dynamics elements in, 256, 257	dataflow diagrams for, 143-49
theoretical foundations of, 8, 41	by deletion, 158–60
coordination, 41–42 (see also Coordination)	e-business order processing example of, 149–55
process, 43 (see also Process)	and extension semantics, 134–35
specialization, 42 (see also Specialization)	frame of reference for, 135–36
underlying concepts in, 449–51	and generating of new processes, 141, 143
uses of, 9–10, 14, 373 (see also Business process	and organizational design, 155
redesign; Knowledge management; Software	restaurant information system example of, 140–43
design and generation)	and specializing transformations, 136–38, 156
Web (on-line) version of, 223, 471	and state diagrams, 138–39
illustration, 458, 459	Process specialization hierarchy, 131–32
Process Handbook project, 3, 443, 551	and Process Handbook, 156
and design handbook for software component	for restaurant example, 141, 142, 143
integration, 124–25	and upward propagation, 160–61
history of, 7–8	Process Specification Language (PSL), 575
and Process Interchange Format, 551	Process support systems, 525
Web-based browser in, 420	Process support systems in dynamic contexts
Process improvement, dependency analyses as basis	and assumptions about human nature, 526–27
for, 364–65	contributions of, 543
Process Innovation: Reengineering Work through	division of labor with user of, 536–37
Information Technology (Davenport), 261	evaluation of and lessons learned from, 540–41
Process innovations, 13	implementation details of, 538–40
of Davenport, 261–74	monitoring of constraints in, 531–33
previous approaches to, 380–81	other systems compared with, 541–42
Process Interchange Format (PIF), 23, 26–27, 550–	planning of options in, 533–36
51, 553–56, 575	and re-usable process components, 538
alphabetic class reference in, 559–67	scenario for ("Heidi's problem"), 526, 528, 531,
extensions of, 567–71 future directions for, 571	532, 534–35, 536, 540
	scripts made imperative, 536
history and current status of, 551–53 modular structure of, 556, 567–71	and specificity frontier, 527–28, 530, 542 division of, 530
rationale for, 556–59	integrating of different spectra of, 537, 543
Process management tools, importance of, 443	and providing of context, 530–31
Process models, 261, 538–39. See also Design	and structure for emergent activity, 528–29
methods	Process synchronization, 292
verifying of, 363	Process theory, 178–79
Process parts, for selling, 444	Process thinking, 191
Process types, for selling, 444	Process visions, 263
Process Recombinator, 393, 403, 408–409, 460	Producer-consumer dependency. See Flow
in comparison to related process design tools, 419	dependencies
deep structure identified, 409–10	Producer-consumer relationships, managing of,
different surface structures found, 410–17	54–56, 60, 62
evaluation of, 418	"Produce as a typical business" specialization, 231,
future efforts on, 419–20	233
implementation of 420–21	Production (core) activities 111

sharing dependencies in, 314–19 timing dependencies in, 313–32 usability dependencies in, 302–304 frequirements for and theoretical foundations of, 515–16 programming, object-oriented, 17 programming languages, 109–10 propagation, upward and downward (specialization hierarchies), 160–61 prototypical uses, of design conflict management repository, 462–63 prototyping environments, 515 freciprocal dependencies, 85, 87 frecombinator See Process Recombinator Recomplineering, See Business process reengineering, See Business process reengineering, See Business process reengineering, See Business process reengineering Rengineering, 224 frequency, 294, 314 frequency, 294, 314 frequency, 294, 314 frequency, 295, 314 frequency, 296, 314 frequency, 296, 314 frequency, 297, 300 frequency, 297, 314 frequency, 298, 314 frequency, 299, 314 frequency, 298, 314 frequency, 298, 314 frequency, 299, 314 frequency, 299, 314 frequency, 298, 314 frequency, 299, 314 frequency, 299, 314 frequency, 298, 314 frequency, 299, 314 frequency, 299, 314 frequency, 298, 314 frequency, 299, 314 frequency, 298, 314 frequency, 299, 314 frequency, 298, 314 frequency, 299, 314 frequency,		
evaluation of, 522–23 requirements for and theoretical foundations of, 515–16 Programming languages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Recongineering. See Business process reengineering Recongineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 refor state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Research familiation, and conflict repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 460–61 Research famework, process-centered, 183–84 Research paradigms, and processes. 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies in, 302–304 Resource replication, 319 Resource replication, 319 Resources production, 106 and coordination, 91 and anaging dependencies among multiple tasks and resources, 96–102 and managing of task-resource dependencies, 91–92 and transportation, 91 and coordination, 91 and posucres secures, 98–99 as represented in Process description technique), 345–36 conshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 Resource allocation as, 168–73 Resource allocation as, 168–73 Resource flow reprince and constraints of process description of const	Product workbench, 515, 524	
future efforts on, 523–24 requirements for and theoretical foundations of, 515–16 Programming, object-oriented, 17 Programming languages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 ProcZessware, 542 and managing of task-resource dependencies, PoroZessware, 542 and prototyping environments, 515 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 Resource flow diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319 dependencies, 96–102 and managing dependencies among multiple tasks and resources, 96–102 and managing of task-resource dependencies, 99–96 dependencies between, 102–103 identifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 Resource sharing, 299–300		
requirements for and theoretical foundations of, 515–16 Programming languages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 ProZessware, 542 Race conditions, 314, 322 Race conditions, 314, 322 Race conditions, 314, 322 Raceiprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering, See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository of concordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 91–90 dependencies between, 102–103 identifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing dependency, 294, 314 Resource tability, 298 Resource access, 298 Restriction of access to resources, 315–18, 319 Reusability, 97, 478 Reusable components, for software system design, 127, 513–14 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research framework, process-centered, 183–84 Research paradigms, 349, 164–66 Semendezovous interprocess cample, 185–88 Resource allocation and coordination, 91 and managing of task-resource dependencies, 910–92 and		
roparamming, object-oriented, 17 Programming, languages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 ProZessware, 542 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research farmework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305		Resource replication, 319
Programming, object-oriented, 17 Programming langages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering, See Business process reengineering Reengineering, See Business process reengineering Reengineering, 18-6-64 exhaustive process decomposition as, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 96–102 and managing dependencies among multiple tasks and resources, 96–102 and managing of task-resource dependencies, 91–96 dependencies between, 102–103 identifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource slability, 298 Resource transportability, 298 Resource usability, 298 Resource usability, 298 Resurant information system as processes pecialization example, 185–88 Resturant information system as processes pecialization example, 140–43 as service-process camment of organizing, 200–201  Sample entry in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 Resource allocation and coordination, 36–73 for state diagrams, 139, 164–66 Rendezvous interprocesses, 211–14 Research framework, process-centered, 183–84 Research paradigms, 320 Resour		Resources
Programming languages, 109–10 Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 ProZessware, 542 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository of knowledge. See Knowledge repository of knowledge on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 460–61 Research paradigms, and processes, 182–83 Resource allocation alprocesses, 298 Resource allocation and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource allocation approaches, 92–99 "scientific communities" for, 74–75 Resource allocation approaches, 92–90 Resource allocation, 317 Refining transformation, 32–8, 94–95 and nonshareable resources, 98–99 "scientific community Metaphor (Ether system), 536 Saph seable, 98–99 as represented in Process Handbook, 253 shareable, 97–80 Resource allocation approaches, 294, 314 Resource transportability, 298 Resource allocation, 317 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation, 32–45, 94–95 and nons		
Propagation, upward and downward (specialization hierarchies), 160–61 Prototypical uses, of design conflict management repository, 462–63 ProZessware, 542 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Recongineering. See Business process reengineering Reengineering, See Business process reengineering Reengineering the Corporation (Hammer and Champy), 274 Refinement, 162–64 Rendezvous interprocess communication paradigm, 312 Repository of knowledge. See Knowledge repository of knowledge. See Knowledge repository of knowledge. See Knowledge repository and nonshareable resources, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research faramework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Resource and Champy's business process reengineering and flow dependencies, 96–102 and managing of task-resource dependencies, 91–96 dependencies between, 102–103 adentifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing dependency, 294, 314 Resource tarnsportability, 298 Resource usability, 29e Resource usability, 29e Usability dependencies setwien, 102–103 Resource alocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph Resource flow grap	Programming, object-oriented, 17	and coordination, 91
(specialization hierarchies), 160-61 Prototypical uses, of design conflict management repository, 462-63 ProZessware, 542 Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process rengineering Reengineering for Corporation (Hammer and Champ), 274 Refinement, 162-64 exhaustive process decomposition as, 168-73 Refining transformation, 137 for state diagrams, 147-49, 168-73 for state diagrams, 139, 164-66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Research, multi-level, 177-78 Research agenda on coordination, 76-78, 107-108 on grammatical models of organizational processes, 211-14 Research facilitation, and conflict repository, 460-61 Research paradigms, and processes, 182-83 Resource allocation and coordination, 75-78, 400-61 Research paradigms, and processes, 182-83 Resource allocation and coordination, 52-54, 94-95 and nonshareable resources, 98-99 "scientific communities" for, 74-75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264-67, 268 in Hammer and Champy's business process reengineering, 275-79 Resource flows, generic model of, 300-302 accessibility dependencies, 91-90 Resource submities, 102-103 identifying of (process description technique), 345-46 nonshareable, 98-99 as represented in Process Handbook, 253 shareable, 97-98 in software systems, 293 and tasks, 52 taxonomy of, 297-300 Resource sharing dependency, 294, 314 Resource thangource thangource staring dependency, 294, 314 Resource allocation of resources, 319 Resource allocation of resources, 319 Resource allocation aportions, and section of access to resources, 315-18, 319 Reusability, 97, 478 Resubmediation, 57-48, 107-108 non processes to resources, 315-18, 319 Reusability, 97, 478 Resubmediation, 50-64, 94-95 and nonshareable, 98-99 and tasks, 52 taxonomy of, 297-300 Resource sharing dependency, 294, 314 Resource tha	Programming languages, 109–10	and managing dependencies among multiple
Prototypical uses, of design conflict management repository, 462–63 ProZessware, 542  Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 460–61 Research faramework, process-centered, 183–84 Research faramework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 Reforment, 162–64 exhaustive process decomposition as, 168–73 Resource divative divative visual taxonomy of, 297–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing dependency, 294, 314 Resource transportability, 298 Resource transportability, 298 Resource transportability, 298 Resource transportability, 298 Resource individual service process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable omponents, for information routing and resource allocation, 74–		
dependencies between, 102–103 identifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing dependencies, 86, 87 Recombinator, 126–64 exhaustive process decomposition as, 168–73 for state diagrams, 147–49, 168–73 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository of knowledge. See Knowledge repository of normalical models of organizational processes, 211–14 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, 319–23  dependencies between, 102–103 identifying of (process description technique), 345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–98 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing, 299–300 Resource sharing, 295–340 Resource transportability, 298 Resource access to resources, 315–18, 319 Reusability, 97, 478 Reusabile, 98–99 and taxonomy of, 297–300 Resource sharing, 299–300 Resource transportability, 298 Resource access to resources, 315–18,		
ProZessware, 542  Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 460–61 Research facilitation, and conflict repository Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies and the securce allocation and assigning tasks, in computer science, 80 Sampated be, 97–98 as represented in Process Handbook, 253 shareable, 97–98 as represented in Process Handbook, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing, 297–300 Resource sharing, 297–300 Resource sharing, 297–300 Resource sharing, 299–30 Resource samile, 193–84 Research fameties, 52 Resource flomation, 76–78, 107–108 On grammatical models o		
Race conditions, 314, 322 Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, 319–23  345–46 nonshareable, 98–99 as represented in Process Handbook, 253 shareable, 97–8 in software systems, 293 and tasks, 52 taxonomy of, 297–300 Resource sharing dependency, 294, 314 Resource unsability, See Usability dependencies Restaurant food service, grammar of, 193–94, 194 212 Restaurant information system as process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Scientific communities, for information routing and resource allocation, 74–75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, 319–23		
Rapid prototyping environments, 515 Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162-64 exhaustive process decomposition as, 168-73 Refining transformation, 137 for dataflow diagrams, 147-49, 168-73 for state diagrams, 139, 164-66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Research, multi-level, 177-78 Research agenda on coordination, 76-78, 107-108 on grammatical models of organizational processes, 211-14 Research facilitation, and conflict repository, 457, 460-61 Research framework, process-centered, 183-84 Research paradigms, and processes, 182-83 Resource access, 298 Resource allocation and coordination, 52-54, 94-95 and nonshareable resources, 98-99 "scientific communities" for, 74-75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264-67, 268 in Hammer and Champy's business process reengineering, 275-79 Resource flows, generic model of, 300-302 accessibility dependencies, 319-23  as represented in Process Handbook, 253 shareable, 97-98 in software systems, 293 and tasks, 52 taxonomy of, 297-300 Resource sharing dependency, 294, 314 Resource sability, 5ee Usability dependencies Restaurant information system as process example, 140-43 as service-process example, 140-43 as service-process example, 140-43 as service-process example, 140-43 as service-process example, 185-88 Restriction of access to resources, 315-18, 319 Reusability, 97, 478 Resuable components, for software system design, 127, 513-14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200-201  Sample entry in Process Handbook, 253 shareable, 97-98 in dataks, 52 taxonomy of, 297-300 Resource sharing dependency, 294, 314 Resource sharing dependency, 294, 31	ProZessware, 542	
Reciprocal dependencies, 85, 87 Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process and flow dependencies, 319–23 shareable, 97–98 in software systems, 293 atxonomy of, 297–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource transportability, 29e Resource transportability, 29e Resource usability, 5ee Usability dependencies Restaurant food service, grammar of, 193–94, 194 212 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 Scheit fic Communities," for information routing and resource allocation, 74–75 Scientific Communities," for information routing and resource allocation, 74–75 Scientific Communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, i		
Recombinator. See Process Recombinator Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process recogineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, 319–23  in software systems, 293 and tasks, 52 Resource sharing, 299–300 Resource sharing, 297–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing, 299–300 Resource sharing, 297–300 Resource sharing, 299–300 Resource sharing, 29–30 Resource sharing, 29–30 Resource sharing, 29–30 Resource usability. 298 Resource usability. 296 Resource sharing dep		
Reengineering. See Business process reengineering Reengineering the Corporation (Hammer and Champy), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research fradework, process-centered, 183–84 Research gradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, 319–23  and tasks, 52 taxonomy of, 297–300 Resource sharing, 299–300 Resource dusability, 298 Resource usability, 298 Resource usability, 29e Restaurant information system as process pecialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Rusource transportability, 299 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restaurant information syst		
Reengineering the Corporation (Hammer and Champ), 274 Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation, 275–79 Resource faaring, 299–300 Resource sharing, 299–300 Resource transportability, 298 Resource usability. See Usability dependencies Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantic domain, 347 Semantic domain, 3		
Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies, in, 304–305 and flow dependencies in, 304–305 a	Reengineering. See Business process reengineering	and tasks, 52
Refinement, 162–64 exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocatio		
exhaustive process decomposition as, 168–73 Refining transformation, 137 for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies Restaurant food service, grammar of, 193–94, 194 212 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201  Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Seeacro, process example, 180–8 Restaurant food service, grammar of, 193–94, 194 212 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusability, 97, 478 Resuarch paradigms, and processes, 182–83		
Refining transformation, 137 for dataflow diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource access, 298 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows generic model of, 300–302 accessibility dependencies (Restaurant food service, grammar of, 193–94, 194 212 Restaurant information system as process reescample, 185–88 Restriction of access to resources, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific Communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scientific Community Metaphor (Ether system), 536 Saled-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
for dataflow diagrams, 147–49, 168–73 for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process, specialization example, 140–43 as service-process example, 185–88 Resturch information system as process, specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process, specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process, specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process, specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process, specialization example, 140–43 as service-process example, 185–88 Restaurant information system as process specialization example, 140–43 as service-process example, 185–84 Retaurant food service, process tample approcesses, peculization example, 140–43 as resturant food service, papecalization example, 185–88 Restaurant food service, papecalization example		
for state diagrams, 139, 164–66 Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  212 Restaurant information system as process specialization example, 140–43 as service-process example, 185–88 Restourcan information system as process specialization example, 185–88 Resturant information system as process example, 185–88 Restaurant information system as process example, 185–84 Restaurant information system as process example, 185–84 Restaurant information system as process example, 165–84 Restaurant information system as process example, 185–88 Restaurant information system as process example, 185–88 Restaurant information system as process example, 185–88 Restaurant infor		
Rendezvous interprocess communication paradigm, 322 Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flows graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Restaurant information system as process secample, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Reusability, 97, 478 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  as process specialization example, 140–43 as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Resusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 SAP customization, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific Communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Seemantics arterior of access to resources, 315–18, 319 Resource-process example, 187–88 Restriction of access to resources, 315–18, 319 Resusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 SAP customization, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific Communities," for information routing and r		
Replication of resources, 319 Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  as service-process example, 185–88 Restriction of access to resources, 315–18, 319 Resource, 315–18, 319 Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Seemantics and flow dependencies, 319–23		
Repository of knowledge. See Knowledge repository Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Restriction of access to resources, 315–18, 319 Reusablity, 97, 478 Resuable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scientific Community Metaphor (Ether system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantics extension, 134–35		
Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Research facilitation, and conflict repository, 457, 460–61 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific Communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Research, multi-level, 177–78 Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Reusable components, for software system design, 127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Research agenda on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  127, 513–14 Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
on coordination, 76–78, 107–108 on grammatical models of organizational processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Role-Commitment-Violation analysis, 424 Rule-based grammar of organizing, 200–201 Sample entry in Process Handbook, 223–29 SAP customization, 156 SAP system, and Dow Corning, 443 Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
on grammatical models of organizational processes, 211–14  Research facilitation, and conflict repository, 457, 460–61  Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Rule-based grammar of organizing, 200–201  Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
processes, 211–14 Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Research facilitation, and conflict repository, 457, 460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Sample entry in Process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process Handbook, 223–29 SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		Rule-based grammar of organizing, 200–201
460–61 Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  SAP customization, and specializing transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		Commission Dragger Handback 222 20
Research framework, process-centered, 183–84 Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  transformation, 156 SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Research paradigms, and processes, 182–83 Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  SAP system, and Dow Corning, 443 Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Resource access, 298 Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Scenario Working Group, MIT, 516 "Scientific communities," for information routing and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Resource allocation and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75  Resource allocation algorithms, analyzing stability properties of, 75  Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  "Scientific communities," for information routing and resource allocation, 74–75  Scientific Community Metaphor (Ether system), 75  Scripts and grammars, 194  "imperative" (process support system), 536  Sealed-bid auction, 425–26  Segmenting and assigning tasks, in computer science, 80  Semantic domain, 347  Semantics extension, 134–35		
and coordination, 52–54, 94–95 and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  and resource allocation, 74–75 Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
and nonshareable resources, 98–99 "scientific communities" for, 74–75 Resource allocation algorithms, analyzing stability properties of, 75 Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Scientific Community Metaphor (Ether system), 75 Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
"scientific communities" for, 74–75  Resource allocation algorithms, analyzing stability properties of, 75  Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  75  Scripts and grammars, 194  "imperative" (process support system), 536  Sealed-bid auction, 425–26  Segmenting and assigning tasks, in computer science, 80  Semantic domain, 347  Semantics extension, 134–35		
Resource allocation algorithms, analyzing stability properties of, 75  Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Scripts and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
properties of, 75  Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  and grammars, 194 "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
Resource flow graph in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79 Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  "imperative" (process support system), 536 Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		*
in Davenport's process innovation, 264–67, 268 in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Sealed-bid auction, 425–26 Segmenting and assigning tasks, in computer science, 80 Semantic domain, 347 Semantics extension, 134–35		
in Hammer and Champy's business process reengineering, 275–79  Resource flows, generic model of, 300–302 accessibility dependencies in, 304–305 and flow dependencies, 319–23  Segmenting and assigning tasks, in computer science, 80  Semantic domain, 347  Semantics extension, 134–35		
reengineering, 275–79 science, 80 Resource flows, generic model of, 300–302 Semantic domain, 347 accessibility dependencies in, 304–305 Semantics and flow dependencies, 319–23 extension, 134–35		
Resource flows, generic model of, 300–302 Semantic domain, 347 accessibility dependencies in, 304–305 Semantics and flow dependencies, 319–23 extension, 134–35		
accessibility dependencies in, 304–305 Semantics and flow dependencies, 319–23 extension, 134–35		
and flow dependencies, 319–23 extension, 134–35		

Sensory graph-plan (SGP), 540 Sentences, and processes, 199–200 Sequencing constraints, prerequisite dependencies as, 306	Software system design, coordination perspective on, 499–500, 504–505, 514. See also Design handbook for software components integration and Architecture Description Languages, 511–12
Sequencing problems, 55	and coordination theory, 511
Sequential dependencies, 85, 87	future research on, 513–14
Service processes, example of (restaurant	and open software architecture, 512-13
comparison), 185–88	and Synthesis system, 500–10
Shareability, 97	Software tools, 4, 25–27
Shared cognitions, 183	Spark project, 551
Shared context, in Hammer and Champy's business	Specialization, 4, 22, 42, 131, 338–39
process reengineering, 279	activity, 391
Shared resource dependencies, 181	by delegation, 158, 159
Shared resources, managing of, 52–54, 60	and field study, 32–33
in computer science, 79	of objects, 157–58
Sharing dependencies, 20, 42, 96, 97–99, 105, 114,	and process description technique, 336
236–37, 267, 314–15, 387, 388, 475, 505	of processes, 15–19, 131–33, 161–62, 384–87, 404–407, 517
and commitments, 428 and communication genres, 476	dataflow diagrams for, 143–49
coordination mechanisms for, 21, 388, 407, 408	by deletion, 158–60
and genre coordination, 485	e-business order processing example of, 149–55
managing of, 315–19	and extension semantics, 134–35
Sharing of resources, 299–300	frame of reference for, 135–36
"Sibling," 401, 450	and generating of new processes, 141, 143
Simultaneity, between tasks, 102–103	and organizational design, 155
Simultaneity constraints, managing of, 56–57,	restaurant information system example of, 140-
60	43
Simultaneity dependency, 330	and specializing transformations, 136–38, 156
Simultaneous end dependency, 332	and state diagrams, 138–39
Sloan School of Management, MIT	in sample Handbook entry, 224–25
on-line admissions process at, 480, 486–92	and Synopsis, 501
and Process Handbook, 443	Specialization hierarchy(ies), 24, 29, 30, 34, 246,
Social grammar, 195. See also Grammar Social insects, 82–83	338, 388, 404–405, 417, 476, 517 branching factor in, 250
Social systems, and distributed or parallel	for communication genres, 483, 485
processing systems, 73–75	and deep structure, 409
Soft Systems Methodology, 339	of prerequisite relationships, 308
Software Architect's Assistant, 125	process knowledge base, 519
Software architecture. See Design handbook for	for "Sell financial service," 518
software components integration	and Synopsis, 503–504
Software connector, 503	Specialization taxonomies, 458
Software design, practical problems in, 110	Specializing transformations, 136–38
Software design and generation, 374–75	completeness of, 164
Software developers	for dataflow diagrams, 147–49
as audience, 3, 12	and process specialization, 136–38, 156
and knowledge repositories, 547	and SAP customization, 156
Software development, component-based, 109	for state diagrams, 139–40, 166
Synthesis system for, 124	uses of, 161
Software engineering, audience from, 10 Software implementation, for Process	Specificity frontier, 527–28, 530, 542 division of, 530
Recombinator, 420–21	integrating of different spectra of, 537, 543
Software interconnection, as design problem, 127,	and providing of context, 530–31
497–98, 514	Speech act theory, 468–69
Software system, coordination perspective for	Standardization
representing, 111–12	for coordination, 82

for usability, 56	identification of, 207
Stanford University, Virtual Design Team (VDT)	and performance programs, 198–99
project at, 551	Syntax of organizational processes, 192. See also
Starts dependency, 330	Grammar
Starvation, as resource problem, 95	Synthesis application development environment,
State diagrams, 138–39	500-504
refining/abstracting transformations for, 139,	Synthesis design assistant, 506–507
164–66	Synthesis system, 111, 119–24, 125–26, 127, 514
specializing transformations for, 139–40, 166	for component-based software development, 507–
STILE, 125	10, 513
Stores, in dataflow diagram, 145	and design handbook of software component
Structural questions, 207	interconnection, 504–505
Structured discussions, 461	System commitment violations, 429
Structures	System resources, 298
coordination, 202	Systems dynamics elements, in Process Handbook,
cultural, 202	256, 257
and emergent activity, 528–29	T. 1
institutional, 201	Task assignment, 21, 54, 59–61, 72
technological, 201–202	in computer science, 80
Subactivities, 15	Task dependencies, 102–103
in Davenport's process innovation, 263–64	Task Manager, 530
Subactivity recombinator. 410–12	Task-resource dependencies, managing of, 91–96,
Subtyping, 158–59	105 Table
SUN Hydraulics, 414	Tasks
Supermarket	composition of, 106
in analogy of grammar and organizational	and coordination, 90–91
process, 196, 197–98, 199, 200, 201, 202–204	and managing dependencies among multiple
cultural norms in, 202	tasks and resources, 96–102
universal product code scanners in, 201–202	dependencies between, 102–103
Supervision, direct, 82	as developing shared understanding, 107–108 and resources, 52
Supply chain examples, in Process Handbook, 244	
Supply chain management, data collection focused on, 27–28, 421	Task-subtask dependencies, managing of, 57–58, 60, 72
Supply Chain Operations Reference (SCOR)	TAXIS (modeling language), 157
Model, 241	Taxonomy(ies)
Supply chain visualization, project on, 256	of actions or verbs, 249–50
Support systems for dynamic group processes. See	of commitment types, 428–29, 430
Process support systems in dynamic contexts	of components, 516
Surface structures, 373, 380, 381	of conflict management meta-process, 457
generating set of, 390–93	of conflicts, 452–55
in Process Recombinator, 409	of coordination methods or mechanisms, 104,
and process specialization, 384	106–107, 426–28
Sybil (work tool), 70, 72	and design handbook of software
Symmetry, as modeling heuristic, 272	interconnection, 122
Synchronization, 57, 60	of dependencies, 86, 104, 106, 113
and dataflow diagrams, 145n	and design handbook of software
in interconnection protocol, 119	interconnection, 122
peer, 117–18, 309, 310, 322	flow dependencies, 114–18
process, 292	evaluation of, 107
task, 98	of exception handlers, 432, 433
Synopsis Architecture Description Language, 122,	of exception types, 253, 256, 429, 431
124, 125, 126, 292, 500–501, 502, 503, 504	genre, 466, 468–73, 492–93 (see also Genre
and Process Handbook, 511	taxonomy)
test application of, 508–509	knowledge base in, 426
Syntactic constituents, 214	or order processes, 150

Taxonomy(ies) (cont.)	Transient memoryless events, 312
of organizational actions, 374	Transient prerequisites, 307, 311
of organizations, 22	Transportability of resources, 298
of processes, 450–51	Transportation costs, effect of changes on, 66
of relationships, 88	Trust of information, and genres in electronic
of resources, 297–300	medium, 479
of software interconnection problems and	Typology. See Taxonomy(ies)
solutions, 113–14	
of specialization, 458	Ulrich, Karl, 242
Team arrangements, 87	UML, 161
Team theory, 81	University of Edinburgh, AIAI at, 552
Technological structures, 201–202	University of Toronto, Enterprise Modeling project
Template-oriented component hierarchy, 516	at, 551–52
Templates for describing activities, 26	Unreliable actors, in computer science, 80
Terminators, in dataflow diagram, 145	Upward propagation, 160–61
Textbook models, 242	Usability constraints, 99, 105, 365
Thank you note genre, 482	Usability dependencies, 115, 293, 302–303. See also
Theories, multiple, 190	Flow dependencies
Theory of organizational processes, development	in case study (MAG), 358
of, 189	coordination aspects related to, 478
	coordination machinisms for 21 288 408
Time, coordination aspects related to, 478–79	coordination mechanisms for, 21, 388, 408
Time conflict management technique, 461	managing of, 56, 118, 182, 303–304
Timing, of genre/genre system, 482	User sharing dependency, 294
Timing dependencies, 114, 294, 323–32, 505	Uses, in sample Handbook entry, 225
Top-down approach, 31	V
Top-down goal decomposition, 57–58, 72	Variance models
Total process aggregation, 147	and grammatical models, 192–93
Total quality management, 13, 285, 401–402	vs. process thinking, 191
Total simulations, Boeing, 21, 388, 408	Variance theories, 178
Trade-off matrix(ices), 18, 19, 365–66, 417	Variation and distribution of processes, 212–13
Trade-off table(s), 385, 387, 405, 406	Verbs, generic, 247–50
in case example (business process redesign), 398	Virtual Design Team (VDT) project, Stanford
for [mockup how?] bundle, 451	University, 551
in sample Handbook entry, 228–29	Visions, process, 263
Trade Wave, 397	Visual Basic programming language, 25, 118, 119,
Transaction cost theory, 80	420, 512
and resource allocation, 53	****
Transfer, management of, 55–56	Web interface, 26
Transfer dependencies, 182, 358	Web site. See also Internet; World Wide Web
Transformations	for MIT conflict repository, 463
abstracting, 137	for NIST, 575
for dataflow diagrams, 168–73	Phios, 8, 446
for state diagrams, 139	for Process Handbook (both versions), 223, 458,
generalizing, 137, 161	459, 471
process as, 179	for Sloan School admissions process, 487
refining, 137	Whirlpool, 32
for dataflow diagrams, 147–49, 168–73	Wild idea, 395
for state diagrams, 139, 164–66	Womex, 397
specializing, 136–38, 161	Wordnet, 249
completeness of, 164	Words, and organizational moves, 197–98
for dataflow diagrams, 147–49	Work
and process specialization, 156	problems in representing, 336–37
and SAP customization, 156	technique for analysis of, 335–36 (see also Process
for state diagrams, 139-40, 166	description technique)
Transient flows, 321	Workflow Management Coalition, 552

Work flow-management systems (WFMS), 521, 523, 525–26, 527, 541
Work process analysis, using genre taxonomy, 486–93
Work tools, cooperative, 69–73, 76
World Wide Web, 466. *See also* Internet; Web site conflict repository on (screen illustration), 459 process repository on, 443

Xerox Management Model, 242 X-Windows/Motif, 512

Yahoo!, and Sloan School students, 488, 492